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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,312	09/12/2003	Roy F. Kruegel	H0005139	7820

128 7590 12/03/2004

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EXAMINER

KERSHTEYN, IGOR

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,312

Applicant(s)

KRUEGEL ET AL.

Examiner

Igor Kershteyn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 and 28-32 is/are allowed.
- 6) ☒ Claim(s) 11-15, 17-23 and 25 is/are rejected.
- 7) ☒ Claim(s) 16, 24, 26, 27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/12/2003</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

Claims 2, 16, and 17 are objected to because of the following informalities:

In claim 2, line 2, "Titanium" should be --titanium--,

In claim 16, line 1, "Titanium" should be --titanium--,

In claim 17, line 1, "Titanium" should be --titanium--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 11-13, 17, 18, 21, and 22 are rejected under 35 U.S.C. 102(a) as being anticipated by Feest (6,585,483).

In figure 1, Feest teaches an air turbine starter unitary inlet structure 15 comprising: an annular housing (not numbered) having a longitudinal centerline (inherently), an air inlet 16, an inner surface(not numbered), and a mounting surface (not numbered); and an annular air director (not numbered) integrally formed as part of the annular housing, the air director disposed at least partially within the annular housing and having an outer surface, wherein at least a portion of the annular housing

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inner surface and the air director outer surface form a flow path that extends substantially parallel to the longitudinal centerline.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feest (6,585,483) in view of Caruso et al. (3,006,603).

Feest teaches all the claimed subject matter except that he doesn't teach the spacing of the stator fins is symmetric.

Caruso et al. in figures 1a, 2, and 8, teaches a turbo-machine having a plurality of angularly spaced circumferentially mounted stator fins 7c, 7, 13 that have symmetric spacing.

Since Feest and Caruso et al. are analogous art because they are from the same field of endeavor, that is the inlet guide vanes art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the angular spacing of fins with the symmetric arrangement as taught by Caruso et al. for the purpose of equal distribution of inlet flow to the turbine blade section.

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Claims 15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feest (6,585,483) in view of Caruso et al. (3,006,603).

Feest teaches all the claimed subject matter except that he doesn't teach the spacing of the stator fins is asymmetric.

Caruso et al. in figures 1, 2a, 3, 3a, 9, and 10, teaches a turbo-machine having a plurality of angularly spaced circumferentially mounted stator fins 1, 9, 10, 11, 14, 17 that have asymmetric spacing.

Since Feest and Caruso et al. are analogous art because they are from the same field of endeavor, that is the inlet guide vanes art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the angular spacing of fins with the asymmetric arrangement as taught by Caruso et al. for the purpose of noise reduction.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Feest (6,585,483) in view of Rice (4,565,490).

Feest teaches all the claimed subject matter except that he doesn't teach the angle of attack of each fin is about 36.738 degrees.

Rice in figure 13b, teaches a stator ring having a plurality of inlet guide vanes 22 having the angle of attack of about 36.738 degrees.

Since Feest and Rice are analogous art because they are from the same field of endeavor, that is the inlet guide vanes art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the vanes of

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Feest with the angle of attack of about 36.738 degrees as taught by Rice for the purpose of substantial reductions in curvatures that provide less aerodynamic drag.

Claim 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Feest (6,585,483) as modified by Caruso et al. (3,006,603) as applied to claim 23 above, and further in view of design choice.

Feest as modified by Caruso et al. discloses the stator that is comprised by a plurality of fins, but do not disclose expressly a plurality of 29 fins.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to provide the stator ring with the plurality of 29 fins because Applicant has not disclosed that the stator ring with the plurality of 29 fins provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the stator ring of Feest as modified by Caruso et al. for the purpose of improving the inlet pressure.

Therefore, it would have been an obvious matter of design choice to modify the stator ring of Feest as modified by Caruso et al. to obtain the invention as specified in claim 25.

Allowable Subject Matter

Claims 1-10, and 28-32 are allowed.

Claims 16, 24, 26, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

Prior art made of record but not relied upon is considered pertinent to Applicant's disclosure and consist of six patents.

Lane et al. (6,681,579) is cited to show an air turbine starter having a main housing, a turbine assembly, a housing section, and a stator section but fails to teach a unitary inlet structure.

Giesler et al. (6,318,958) is cited to show an air turbine starter having a main housing, a turbine assembly, a housing section, and a stator section but fails to teach a unitary inlet structure coupled to the main housing.

Burch (5,267,433) is cited to show an air turbine starter having a main housing, a turbine assembly, a housing section, and a stator section but fails to teach a unitary inlet structure.

Tichiaz et al. (5,257,685) is cited to show an air turbine starter having a main housing, a turbine assembly, a housing section, and a stator section but fails to teach a unitary inlet structure.

Sorenson et al. (5,042,963) is cited to show an air turbine starter having a main housing, a turbine assembly, a housing section, and a stator section but fails to teach a unitary inlet structure.

Cunningham (3,989,407) is cited to show an air turbine starter having a main housing, a turbine assembly, a housing section, and a stator section but fails to teach a unitary inlet structure.

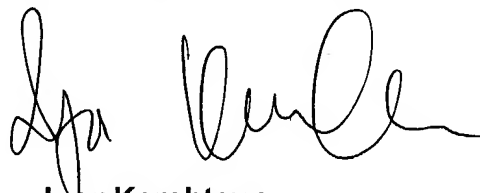
Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kershteyn whose telephone number is **(571)272-4817**. The examiner can be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

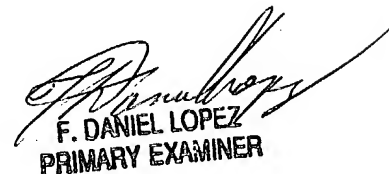
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on **(571)272-4820**. The fax number is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308 0861.

IK
November 30, 2004



Igor Kershteyn
Patent examiner.
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F. DANIEL LOPEZ
PRIMARY EXAMINER